CODING STANDARD

SPECIFICATION

for

Research Practicum 2016

School of computer Science

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Document revision history

Name	Date	Reason for change	Version
Silvia	15/7/2016	Added R	2

1. Introduction

In this report we are going to specify the code standard that the team "Who's there" will follow for implementing the system for counting the room occupancy in the University college of Dublin (UCD).

The room occupancy will be estimated by a model using the data stored in the database. Python is going to be used for extracting the data from the CSV file containing the ground truth data and upload them into the database. All the data analyses, instead, are going to be coded using R. The database is connected to the server, which will fulfil its functionality using a Java controller: Spring. Spring is going to be used also for communicating with the mobile application, which will input the ground truth data in the database. An API is going to be generated by Server by pulling the data directly from the server.

The results of the analyses will be displayed by a web application, which will be implemented using HTML5, CSS3 and Java Script.

1.1 Objectives

Given the fact that several programming languages are going to be used during this project, the objective of this document is to provide a guide for helping the developers to write a code that will be consistent and readable throughout the entire project.

A well written code is easy to maintain and to it improve the performance of the system adaptable to any system. Furthermore, a good readability of the code will ensure that it will be understandable and modifiable by other developers.

1.2 Overview

The document is going to be divided in different sections corresponding to the different programming languages used in this project. For each language we are going to specify which guide we decide to follow and we will point out potential diversion from this document.

2. Python

For Python we decided to follow the PEP 8 Style Guide for Python Code (https://www.python.org/dev/peps/pep-0008/) as it is the most used guide in the industry. This guideline gives to the user the choice to use either space or tabs for indentation as long as he/she will be consistent throughout the project. In the scope of this project we decided to use tabs.

3. JAVA

For Java we will be following the Google Java style guide (https://google.github.io/styleguide/javaguide.html), because it seems the most complete and up to date. Another good guide was the one created by Oracle, but it has not been updated since the 1999 and Oracle is warning that the information displayed may no longer be valid.

4. HTML5 and CSS3

As guideline for HTML and CSS we are going to use the one provided by Google, since it was most complete that we found (https://google.github.io/styleguide/htmlcssguide.xml). This guideline can be applied to HTML5 and CSS3. Also in this case we are going to use tabs rather than 2 spaces for indentation.

For checking the validity of the code in both languages we are going to use the online validators, which will make sure that the code met the standard set by World Wide Web Consortium (3WC).

The link for the HTML5 is: https://validator.w3.org/

The link for the CSS3 is: http://www.css-validator.org/

5. JavaScript

To be consistent with the choice made for HTML and CSS, the team decided to follow the standards used by Google also for JavaScript (https://google.github.io/styleguide/javascriptguide.xml).

Also in this case we are going to follow all the points in the guidelines with an exception for the indentation, which is going to be done using tab.

6. R

We are going to use the Google's R style guide, since the majority of the style guidelines, that we found for R, were inspired it. We followed this guideline in almost all its aspect, with the only exception for the indentation that in our case will be done with the tab and for the identifiers name, for which we will allow the use of the underscore (i.e.WiFi_Max_logs). The guideline can be found at the following URL: (https://google.github.io/styleguide/Rguide.xml).